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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR         | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------------|---------------------|------------------|
| 10/625,905  | 07/24/2003  | David Robert Cameron Rolston | 16005-1US CMB/VP/ad | 1204             |
| 20/988 7590 04/07/2008<br>OGILVY RENAULT LLP<br>1981 MCGILL COLLEGE AVENUE<br>SUITE 1600<br>MONTREAL, QC H3A2Y3<br>CANADA |             |                              |                     |                  |
| EXAMINER  |             |                              |                     |                  |
| TRAN, HOANG Q   |             |                              |                     |                  |
| ART UNIT  |             | PAPER NUMBER                 |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/625,905

**Applicant(s)**

ROLSTON ET AL.

**Examiner**

HOANG TRAN

**Art Unit**

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 12-15 and 25-41 is/are pending in the application.
- 4a) Of the above claim(s) 27-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-15, 25, 26 and 44 is/are rejected.
- 7) ☒ Claim(s) 42 and 43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-15, 25-26, and 44 rejected under 35 U.S.C. 102(e) as being anticipated by Colgan et al. (US 2004/0014859 A1 "Colgan" hereafter).

In terms of claims 1, 12 and 25, and 44 Colgan teaches a method for manufacturing an optical connector assembly, comprising: preparing a sealed assembly comprising a plurality of fibers arranged as a ribbon cable (Fig. 7(a-c) '23' '24'), polishing first end of said sealed assembly at a predetermined angle (Fig. 6(b)) to enable a coupling of said optical fiber to an optical device using a total internal reflection to a planar coupling surface located on said sealed assembly (Figure 7b); placing said planar coupling surface on said optical device (Fig. 7(a) '52') with said planar coupling surface abutting a planar window over said optical device: and using references on said optical device and said sealed assembly to adjust a position of said sealed assembly over said planar window to achieve said coupling (see Para [0023]). The coupling of

the optical device and the planar coupling surface is through a transparent sheet of material (24) between the coupling surfaces of the window of the optical device.

As for claims 2, 9 and 26, the step for preparing the sealed assembly comprises: providing a substrate having V-grooves; inserting optical fibers in each one of the V-grooves provided in the sealed assembly (Fig. 2 '12'); providing an epoxy coating substance over at least one part of the sealed assembly, in the vicinity of the V-grooves (Para [0073]); sealing the optical fibers in each one of the V-grooves provided in the sealed assembly using the epoxy coating substance and a sheet material provided over said coupling surface over the V-grooves to ensure each of said optical fiber is correctly place and bonded within said the V-grooves to create said sealed assembly; and wherein said polishing of said first end of said sealed assembly at a predetermined angle provides a beveled surface on said sealed assembly and thereby also provides a beveled surface on each said optical fiber at the first end of said sealed assembly (Para [0068]).

As to claims 3-5, and 8, the method further comprising the step of partially removing the sheet material to expose the planar coupling surface, cladding of said optical fiber, of the sealed assembly.

As to claim 7, the epoxy coating is cured by UV light (Para [0024]).

As the claim 10, the V-grooves are etched in silicon (Para [0031]).

As to claim 13, wherein the optical device comprises a VCSEL (Para [0050]).

As to claim 15, the sealed assembly further providing an optically reflective coating, mirror, to replace said total internal reflection (Fig. 7(a)).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colgan in view of Igl et al. (US 6,318,902 "Igl" hereafter).**

Colgan discloses Colgan teaches a method for manufacturing an optical connector assembly, comprising: preparing a sealed assembly comprising a plurality of fibers arranged as a ribbon cable (Fig. 6(a) '23' '24'), polishing first end of said sealed assembly at a predetermined angle (Fig. 6(b)) to enable a coupling of said optical fiber to an optical device using a total internal reflection to a planar coupling surface located on said sealed assembly; placing said planar coupling surface on said optical device (Fig. 7(a) '52') with said planar coupling surface abutting a planar window over said optical device; and using references on said optical device and said sealed assembly to adjust a position of said sealed assembly over said planar window to achieve said active coupling (see Para [0023]). The coupling of the optical device and the planar coupling surface is through a transparent sheet of material (24) between the coupling surface of the window of the optical device.

However, Colgan does not explicitly disclose having fiducial mark or etching on said sealed assembly.

Igl discloses employing fiducial marks for the purpose of aligning fibers in v-grooves with optoelectronic devices (col. 8, lines 1-23).

Since Colgan and Igl are both from the same field of endeavor, the purpose disclosed by Igl would have been recognized in the pertinent art of Colgan.

**The motivation** for employing fiducial marks as the alignment method for such alignment process may be automated and thus more accurate than passive alignment. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the teaching of Igl's method of actively aligning optoelectronic devices with fibers within v-grooves to the invention disclosed by Colgan.

**Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colgan in view of Kim et al. (US 2002/0039376 A "Kim" hereafter).**

Colgan discloses the invention of claims 1 and 12.

However, Colgan does not disclose the optical device comprises a microlens provided at a distance from the sealed assembly that will enable a capture of all light originating from a corresponding optical fiber and collimate all the light to the optical device.

Kim discloses a VCSEL with an integrated microlens for the purpose of collimating all emitting light from the laser into the transmission medium.

Since Colgan and Kim are both from the same field of endeavor, the purpose disclosed by Kim would have been recognized in the pertinent art of Colgan.

**The motivation** for providing an integrated microlens in the VCSEL is to collimate the emitting light while reducing an external microlens that requires alignment with the VCSEL and the transmission medium. Ultimately, the integrated microlens in the VCSEL reduces the manufacturing cost by reducing the assembly of an external microlens component and further aligning the external microlens with the VCSEL and the transmission medium . It would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the VCSEL, as disclosed by Colgan, with Kim's VCSEL with integrated microlens .

***Allowable Subject Matter***

Claims 42 and 43 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record is silent to wherein said at least partially removing comprises chemically treating said sheet of material as detailed in Claim 42.

Regarding 43, the prior art is also silent wherein said at least partially removing comprises at least on of lapping and polishing said sheet of material. The prior art to Colgan does not teach partially removing sheet material through means of lapping.

***Response to Arguments***

Applicant's arguments filed arguments 11/08/2006 have been fully considered but they are not persuasive. The applicant argues that the prior art of Colgan does not teach a seal assembly and that the fiber will be damage during the polishing step. The examiner disagrees because Figure 7(a-c) teaches that fiber [22] is sealed in the substrate v-grooves [54] and epoxy is wicked onto the substrate to provide the sealing (Paragraph [0073]). Then the fiber is polished and cut to from beveled shape of figure 5. Hence the argument that the fiber is not seal is not persuasive because (Paragraph teaches an epoxy is wicked on to provide the sealing of the fiber onto the v-grooves of which is similar to the step provided in the applicant disclosure on Figure 3a of the Specification. Therefore the grounds of rejection regarding claim 1 is maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Art Unit: 2874

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOANG TRAN whose telephone number is (571)272-5049. The examiner can normally be reached on 9:00AM - 5:00 PM.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HT

Hoang Tran  
AU 2874  
March 31, 2008

/Sung H. Pak/

Primary Examiner, Art Unit 2874

**Application Number****Application/Control No.**

10/625,905

**Applicant(s)/Patent under  
Reexamination**

ROLSTON ET AL.

**Examiner**

HOANG TRAN

**Art Unit**

2874